

In the Claims

1 to 29. (cancelled)

30. (currently amended) A communication system comprising:

a plurality of virtual private networks 'VPNs' interconnected by a first data network;

a second data network connected to the plurality of VPNs via the first data network, the second data network using a network addressing scheme that is different to a network addressing scheme used by at least one of said plurality of VPNs;

a VPN gateway interfacing the first data network and a call server in the second data network, the VPN gateway being configured to pass communication session signalling traffic between an entity in one of said plurality of VPNs and the call server for establishing a communication session between said entity in one of said plurality of VPNs and an entity in an external Time Division Multiplex 'TDM' network, said external TDM network handling communication session bearer traffic in a different TDM format different to that a packet data format of the first data network; and

a VPN converter interfacing the first and second data networks and directly interfacing the first data network to said external TDM network, the VPN converter being configured to receive bearer traffic relating to said communication session established between said entity in one of said plurality of VPNs and the entity in the external TDM network and to convert said bearer traffic between a the packet data format of the first data network and the different TDM format used in the external TDM network.

31. (cancelled).

32. (previously presented) The communication system of claim 30, wherein the plurality of VPNs is arranged to share the VPN converter as a common resource.

33. (previously presented) The communication system of claim 32, wherein the VPN converter comprises a plurality of virtual routers, said plurality of virtual routers

being provided for said plurality of VPNs such that each of said plurality of virtual routers is provided with an address from an address space of its respective one of the plurality of VPNs.

34. (previously presented) The communication system of claim 30, wherein the communication session comprises one of a voice over Internet Protocol 'VoIP' call, a telephony call, a video call, and a fax communication.

35. (cancelled).

36. (previously presented) The communication system of claim 30, wherein the VPN converter is arranged to convert an encoding format of the bearer traffic.

37. (previously presented) The communication system of claim 36, wherein the encoding format comprises one of G.711, G.729, and G.726 formats.

38. (previously presented) The communication system of claim 30, wherein the VPN converter is arranged to determine which of the plurality of the VPNs the communication session signalling information relates to, and to associate VPN converter resources to a communication session associated with the identified VPN.

39. (previously presented) The communication system of claim 38, wherein the VPN converter is arranged to determine the VPN identity based on an external network address associated with the VPN entity.

40. (previously presented) The communication system of claim 38, wherein the VPN converter is arranged to determine the VPN identity based on a VPN identifier parameter provided by an entity of the VPN.

41. (previously presented) The communication system of claim 38, wherein the VPN converter is arranged to determine the VPN identity based on parameters associated with establishment of the communication session.

42. (previously presented) The communication system of claim 41, wherein the parameters comprise an E.164 address.

43. (currently presented) The communication system of claim 31, wherein the external TDM network comprises a public switched telephone network 'PSTN'.

44. (previously presented) The communication system of claim 30, wherein, where more than one of the VPNs use private IP network addressing schemes, some of said private IP network addressing schemes have overlapping address ranges.

45. (previously presented) The communication system of claim 30, wherein the communication session signaling traffic comprises 'VoIP call signaling and the call comprises a VoIP call.

46. (previously presented) The communication system of claim 33, wherein the VPN converter comprises a network address translation 'NAT' function and the NAT function is configured to provide a network address translation function to each of the virtual routers.

47. (currently amended) A method of converting bearer traffic format in a communication system comprising: a plurality of virtual private networks 'VPNs' interconnected by a first data network; a second data network connected to the plurality of VPNs via the first data network, the second data network using a network addressing scheme that is different to a network addressing scheme used by at least one of said plurality of VPNs; a VPN gateway interfacing the first data network and a call server in the second data network; and a VPN converter interfacing the first and second data networks; the method comprising the steps of:

directly interfacing the first data network to said an external Time Division Multiplex 'TDM' network;

configuring the VPN gateway to pass communication session signalling traffic between an entity in one of said plurality of VPNs and the call server for establishing a communication session between said entity in one of said plurality of VPNs and an entity in an said external TDM network, said external TDM

network handling communication session bearer traffic in a different TDM format different to that a packet data format of the first data network; and

configuring the VPN converter to receive bearer traffic relating to said communication session established between said entity in one of said plurality of VPNs and the entity in the external TDM network and to convert said bearer traffic between a the packet data format of the first data network and the different TDM format used in the external TDM network.

48. (cancelled).

49. (previously presented) The method of claim 47, wherein the plurality of VPNs share the VPN converter as a common resource.

50. (previously presented) The method of claim 49, wherein the VPN converter comprises a plurality of virtual routers, said plurality of virtual routers being provided for said plurality of VPNs such that each of said plurality of virtual routers is provided with an address from an address space of its respective one of the plurality of VPNs.

51. (previously presented) The method of claim 47, wherein the communication session is one of a voice over Internet Protocol 'VoIP' call, a telephony call, a video call, and a fax communication.

52. (cancelled).

53. (previously presented) The method of claim 47, wherein the VPN converter converts an encoding format of the bearer traffic.

54. (previously presented) The method of claim 53, wherein the encoding format is one of G.711, G.729, and G.726 formats.

55. (previously presented) The method of claim 47, wherein the VPN converter determines which of the plurality of the VPNs the communication session signalling

information relates to, and associates VPN converter resources to a communication session associated with the identified VPN.

56. (previously presented) The method of claim 55, wherein the VPN converter determines the VPN identity based on an external network address associated with the VPN entity.

57. (previously presented) The method of claim 55, wherein the VPN converter determines the VPN identity based on a VPN identifier parameter provided by an entity of the VPN.

58. (previously presented) The method of claim 55, wherein the VPN converter determines the VPN identity based on parameters associated with establishment of the communication session.

59. (previously presented) The method of claim 58, wherein the parameters comprise an E.164 address.

60. (currently amended) The method of claim 48, wherein the external TDM network is a public switched telephone network 'PSTN'.

61. (previously presented) The method of claim 47, wherein, where more than one of the VPNs use private IP network addressing schemes, some of said private IP network addressing schemes have overlapping address ranges.

62. (previously presented) The method of claim 47, wherein the communication session signaling traffic is 'VoIP call signaling and the call is a VoIP call.

63. (previously presented) The communication system of claim 50, wherein the VPN converter has a network address translation 'NAT' function and the NAT function provides a network address translation function to each of the virtual routers.

64. (currently amended) A virtual private network 'VPN' converter for a communication system comprising: a plurality of virtual private networks 'VPNs' interconnected by a first data network; a second data network connected to the plurality of VPNs via the first data network, the second data network using a network addressing scheme that is different to a network addressing scheme used by at least one of said plurality of VPNs; and a VPN gateway interfacing the first data network and a call server in the second data network, the VPN gateway being configured to pass communication session signalling traffic between an entity in one of said plurality of VPNs and the call server for establishing a communication session between said entity in one of said plurality of VPNs and an entity in an external Time Division Multiplex 'TDM' network, said external TDM network handling communication session bearer traffic in a ~~different~~ TDM format different to ~~that a~~ packet data format of the first data network; the VPN converter comprising:

interfaces for interfacing the first and second data networks and directly interfacing the first data network to said external TDM network,

means for receiving bearer traffic relating to said communication session established between said entity in one of said plurality of VPNs and the entity in the external TDM network; and

means for converting said bearer traffic between a the packet data format of the first data network and the ~~different~~ TDM format used in the external TDM network.

65. (cancelled).

66. (previously presented) The VPN converter of claim 64, wherein the VPN converter comprises a plurality of virtual routers, said plurality of virtual routers being provided for said plurality of VPNs such that each of said plurality of virtual routers is provided with an address from an address space of its respective one of the plurality of VPNs.

67. (previously presented) The VPN converter of claim 64, wherein the VPN converter is arranged to convert an encoding format of the bearer traffic.

68. (previously presented) The VPN converter of claim 67, wherein the encoding format comprises one of G.711, G.729, and G.726 formats.

69. (previously presented) The VPN converter of claim 64, wherein the VPN converter is arranged to determine which of the plurality of the VPNs the communication session signalling information relates to, and to associate VPN converter resources to a communication session associated with the identified VPN.

70. (previously presented) The VPN converter of claim 69, wherein the VPN converter is arranged to determine the VPN identity based on an external network address associated with the VPN entity.

71. (previously presented) The VPN converter of claim 69, wherein the VPN converter is arranged to determine the VPN identity based on a VPN identifier parameter provided by an entity of the VPN.

72. (previously presented) The VPN converter of claim 69, wherein the VPN converter is arranged to determine the VPN identity based on parameters associated with establishment of the communication session.

73. (previously presented) The VPN converter of claim 66, wherein the VPN converter comprises a network address translation 'NAT' function and the NAT function is configured to provide a network address translation function to each of the virtual routers.

74. (currently amended) A computer readable medium storing computer readable instructions which, when executed by a processor of a computing device, cause said computing device to implement, in a communication system comprising: a plurality of virtual private networks 'VPNs' interconnected by a first data network; a second data network connected to the plurality of VPNs via the first data network, the second data network using a network addressing scheme that is different to a network addressing scheme used by at least one of said plurality of VPNs; a VPN gateway interfacing the first data network and a call server in the second data network; and a VPN converter interfacing the first and second data networks and

directly interfacing the first data network to said an external Time Division Multiplex 'TDM' network; the steps of:

causing the VPN gateway to pass communication session signalling traffic between an entity in one of said plurality of VPNs and the call server for establishing a communication session between said entity in one of said plurality of VPNs and an entity in an said external TDM network, said external TDM network handling communication session bearer traffic in a different TDM format different to that a packet data format of the first data network; and

causing the VPN converter to receive bearer traffic relating to said communication session established between said entity in one of said plurality of VPNs and the entity in the external TDM network and to convert said bearer traffic between a the packet data format of the first data network and the different TDM format used in the external TDM network.